

Andrew Chu

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EDUCATION

University of Waterloo

Bachelor of Computer Science - Honours Co-op Program - Dean's Honours List

Expected 2028

Waterloo, ON

SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, TypeScript, Go, Dart, Sass, R, Haskell

Frameworks: React, Flask, TailwindCSS, SvelteKit, Firebase, Express.js, MongoDB, Mocha, FastAPI, Next.js

Methodologies: REST API, Object-Oriented Programming, MVC

Developer Tools: Google Cloud, Linux, Git, GitHub, Node, Figma, Docker, AWS, VS Code

EXPERIENCE

Data Engineer Intern

Aug. 2024 - Sep. 2024

Alljoined

Toronto, ON

- Implemented an event logging system in **Python**, identifying critical timing precision issues with EEG data
- Reduced variation in length of condition presentation by **95%**, achieving a consistent accuracy within **10 ms**.
- Performed artifact correction and statistical testing using **MNE**, **NumPy**, and **SciPy** libraries

Full-Stack Developer

Sep. 2022 - Jan. 2023

Digitera Interactive

Richmond Hill, ON

- Contributed to the "Skule News" project, a school news app to streamline communication among students
- Reduced frequency of in-app crashes by **20%** by resolving incorrect **Firebase** queries in the backend app logic
- Engineered image preview feature when uploading or editing articles in **Flutter**, enhancing user experience
- Designed and tested **150+** lines of **Firebase Rules** to provide secure database access for 3 user privilege levels

Logistics Lead

Sep. 2023 - Jun. 2024

YRHacks

Richmond Hill, ON

- Coordinated logistics for a 24-hour hybrid hackathon, accommodating **300+** high school participants
- Ensured seamless event execution by managing event communication between hackers, judges, and the team
- Mentored participants in **Pygame** and **Python**, enhancing their coding skills and project outcomes

PROJECTS

EasyMeet | *React, Firebase, TailwindCSS, Mocha, GitHub Actions, CI/CD, Figma*

Jan. 2025

- Developed and deployed a mobile-friendly meetup scheduling website in **React**, deployed live at **easymeet.ca**
- Designed and tested **Cloud Firestore** to protect user data while providing a no-password user experience
- Automated unit testing and deployment to support **CI/CD** practices with **Mocha** and **GitHub Actions**

Tiny Raytracer | *C++, Go*

Dec. 2024

- Developed Tinyraytracer, a proof-of-concept raytracer written in **Go** and **C++** for rendering geometric objects
- Implemented lighting effects such as specular lighting, refraction and reflection using the Phong reflection model

Baseline | *Python, FastAPI, SciPy, NumPy, MNE, Matplotlib, React, TailwindCSS, Jupyter*

Oct. 2024

- Developed Baseline, a neurotech application that uses EEG data to analyze fatigue levels in real-time
- Achieved **2nd Place** in "**Best in Neurotech**" category at Hack49
- Utilized industry tooling including **MNE**, **SciPy**, and **NumPy** to process brain waves in under **one second**
- Designed user dashboard in **React** for interpreting brain wave data generated by **Fast API** REST backend

The Spyglass Website | *SvelteKit, TypeScript, TailwindCSS, GitHub*

Jul. 2024

- Redesigned website for school magazine with responsive web design principles, hosting 30+ articles
- Optimized experience on mobile site to follow human-interaction principles such as Fitt's Law and Rule of Thumb

Eyedentify | *Python, Flask, React, MediaPipe, REST API*

Mar. 2023

- Developed a facial recognition attendance tracker achieving **2nd Place** and "**Best Web App**" at YRHacks 2023
- Designed intuitive interface for users, capable of identifying and labeling faces in a picture all at once
- Implemented a **Flask** backend for photo analysis and utilized **React** for a responsive frontend interface